BEEVERYCREATIVE

IMPRINT CHANGE WITH 3D PRINTING

3D Printer Filament
TPU-FLEX

Made by Mitsubishi Chemicals Performance Polymers

RAW MATERIAL
TPU - Thermoplastic Polyurethane

TECHNICAL DATASHEET

APPLICATION
3D Printing

Material Specifications

SIZE	Ø TOLERANCE	ROUNDNESS
1,75mm	±0,05mm	≥ 95%

Material Properties

DESCRIPTION	TEST METHOD	TYPICAL VALUE
Specific gravity	ISO 1183	1,16 g/cc
Tensile Strength at Yield	ISO 527 1/2	50 Mpa
Elongation-Strain at Break	ISO 527 1/2	450%
Tensile (E) modulus	ISO 527	150 MPa
Impact strength - Charpy method 23ºC	ISO 179	NB
Shore Hardness	ISO 7619-1	98A
Printing temperature	DF	235±10ºC
Melting temperature	ISO 294	225ºC
Glass transition (Tg)	DSC	-16ºC
Vicat softening temperature	ASTM D 1525	138ºC

STORAGE INSTRUCTIONS

OPTIMAL STORAGE TEMPERATURE

UNUSED EXPIRATION DATE

COOL, DRY PLACE AWAY FROM SUNLIGHT

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RECOMMENDATIONS

HOW DOES MOISTURE SENSITIVITY IMPACT TPU-FLEX?

TPU-FLEX is very hygroscopic material. This means that it attracts moisture from the air which can have a negative impact on the printing performance. After printing, it is strongly recommended to place the spool into a vacuum bag (without any silica*) for storage.

** More often than not silica gel sachets contain a higher ppm moisture content than the filament itself which would have a reversed effect.*

WHEN IS TPU-FLEX TOO WET TO PRINT?

If the TPU-FLEX is too wet, this can be evaluated visually:

1 - Heat the nozzle to the preferred temperature for your printer.
2 - Extrude or push the filament through the nozzle.

Example of a very wet filament with moisture bubbles after extrusion

Tiny bubbles appearing when the filament is coming out of the nozzle indicates expanding moisture and can cause unwanted printing effects.
When a clear filament is not perfectly clear after extruding, and has milky white streaks through it, it is also too wet to print.

WHAT TO DO WHEN TPU-FLEX IS TOO WET TO PRINT?

TPU-FLEX attracts moisture. After everyprint it is recommended to dry the filament before the next print.

The formula for drying TPU-FLEX is easy:

-After a 24 hour print put it into a standard heated air oven or filament dryer at 65°C for 24 hours.
-After a 8 hour print, put the filament into the oven for 8 hours.
-After a 2 hour print, put the filament into the oven for 2 hours.

This will be enough to dry the TPU-FLEX to moisture levels in order to have the best printing results.